

IN THE SPECIFICATION (continued):

*IN THE ABSTRACT:* The present abstract was originally filed in the instant application via the inclusion of two cover pages from the original PCT filing WO 2005/023331 that had simply been included with the filing of the present application. To this end, please delete the aforementioned two PCT/WIPO cover pages from the original PCT filing WO 2005/023331, thereby also deleting the current abstract which is found as part of one of said two cover pages from the original PCT filing (WIPO publication). Further to that point, please replace the originally filed abstract with the below replacement abstract which recites the original abstract verbatim, except for the minor addition of certain punctuation, as indicated by underlining:

The present invention relates to reversible hydrogel systems. Particularly, the hydrogel of the present invention is made up of copolymers that can be a hydrogel when in an oxidized state and can be a solution when in a reduced state. A solution of the copolymer can be oxidized to form a hydrogel; and the hydrogel can be reduced to form a solution of the copolymer. Reversible nanogels can also be formed from a dilute solution of the copolymers. The hydrogel is formed with nanoparticles embedded therein to form a nanocomposite whose refractive index and modulus can be controlled by varying the amounts of nanoparticles and the polymer concentration of the hydrogel, respectively.